

Hatch

City of Winnipeg



By-Law No. 13493

*A By-Law of the City of Winnipeg
relating to Plumbing and
Drainage Work.*

(Passed by Council—April 15th, 1929)

Printed by authority of the Municipal Council of Winnipeg



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By-Law No. 13493

A By-Law of the City of Winnipeg relating to Plumbing and Drainage Work.

The Municipal Council of the City of Winnipeg, in Council assembled, enacts as follows:—

1. In this By-Law the following terms shall have the Definitions meanings respectively assigned to them:—

(a) "*Back Vent*," means that part of a vent pipe line which connects directly with an individual trap near the fixture and extends either to the main or a branch vent

(b) "*Trenit Vent*," means a system of ventilating by which the ventilation is effected by extending the branch soil or waste pipe and then connecting with an auxiliary main vent, which vent in conjunction with the main soil or waste vent completes and forms a continuous air current or vent for each branch line so installed

(c) "*Commissioner*," means and includes the Commissioner of Buildings of the said City or any of his authorized assistants.

(d) "*Continuous Vent*" The term "continuous vent" refers to that method of venting in which the soil or waste pipe being continued vertically in a straight line forms the vent, the trap being vented through the waste fitting

(e) "*Fixture*," includes every water closet, sink, wash-basin, bath or wash-tub and every other water supplied convenience which is connected with or discharged into the Plumbing and Drainage System in any premises.

(f) "*Fresh Air Inlet*," includes the pipe for the admission of fresh air which connects with the house-drain at a point inside the house trap and extends to the open air

(g) "*House-drain*," means the drain which connects with the sewer connection outside the external walls of and extends inside and under the premises and which receives the drainage from soil and waste pipes and rain water leaders.

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By-Law 13493 (h) "*Loop Vent*" A loop vent is a circuit vent where the branch or branches of soil or waste pipe of only one floor, having no other fixtures or branches installed above them, loops over above the flow line of the fixtures and reconnects with the main soil or waste vent line.

(i) "*Man Sewer*," includes all sewers and drains of every description vested in or under the control of the City of Winnipeg.

(j) "*Master Plumber*," includes any person, firm or corporation carrying on the occupation, trade or business of Plumber on his or its own account or executing any work pertaining to such occupation, trade or business in the City of Winnipeg, and also any person, firm or corporation duly licensed under this By-Law.

(k) "*Owner*," includes every person in possession of any premises or in receipt of the whole or of any part of the rents and profits therefrom, whether on his own account or as agent or trustee for any other person, or in the occupation of any such premises either as a tenant from year to year or for any less term, or as a tenant at will, and the agent of any such person.

(l) "*Person*," includes every person, firm or corporation.

m "*Plumbing and Drainage System*," includes any system or arrangement of one or more pipes and drains (including the fittings and appliances attached thereto or forming a part thereof) in, upon or about or connected with any premises for conducting or carrying away rain, storm, surface waste and soil water and other waste from the premises and for the ventilation of such pipes or drains and for supplying such premises with water for all purposes, and any part or portion of such system.

(n) "*Premises*," includes every house, tenement block, warehouse, hotel, school, factory, workshop or building in the City of Winnipeg.

(o) "*Rain-water Leaders*," include the pipes which convey rain and surface water from the roofs and paved surfaces of any premises to the house drain.

(p) "*Sewer Connection*," includes the drain used to convey the drainage from the house drain to the main sewer.

(q) "*Soil or Waste Vent*," means that part of the main soil or waste pipe above the highest installed branch or fixture outlet connection and extending through the roof.

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(f) "*Soul Pipes and Waste Pipes*," include the pipes which convey the waste water and other discharge from any fixture to the house-drain. By Law 13493

(g) "*Stack*," includes any line of pipe extending from the house drain through the roof of the premises.

1) "*Vent Pipe*," means any special pipe provided to ventilate a drainage and plumbing system to prevent trap syphonage, back pressure and to facilitate the flow of sewage by free admission of air.

a) "*Ventilating Pipe*," includes every anti-syphon pipe, vent pipe and every other pipe intended to ventilate any plumbing and drainage system.

v) "*Work*," includes any operation involving the construction, reconstruction, renewal, addition to or extension of any plumbing and drainage system or any part thereof for which a permit is required under this By-Law.

2. The provisions contained in Sections 3 to 87, inclusive, of this By Law, shall apply to every plumbing and drainage system to be installed in any premises after the date of the passing of this By Law, and to every addition to, alteration upon, extension or reconstruction of any plumbing and drainage system already installed in such premises, or for which a permit has been already issued under the provisions of any existing By Law or By Laws of the City prior to the date of the passing hereof. Save as aforesaid nothing in the said sections contained shall, extend or apply to or affect any plumbing and drainage system already installed or for which such permit has already been issued except where this By Law expressly so provides. Application of By Law

3. No person shall construct, reconstruct, renew, add to, alter or extend, or cause or permit to be constructed, reconstructed, renewed, added to, altered or extended any plumbing and drainage system or any part thereof in any premises, until he shall have obtained a permit from the Commissioner, as hereinafter provided. No work authorized by any such permit shall be executed by any person other than a Master Plumber duly licensed under this By-Law as hereinafter provided. Permit required.

4. Before constructing, reconstructing, renewing, adding to, altering or extending any plumbing and drainage system or any part thereof, in any premises, the Owner of such premises shall apply to the Commissioner for a permit authorizing the work proposed to be done upon the same. Such ap- Onset to apply

RELATING TO PLUMBING AND DRAINAGE WORK

- By-Law 19493** Application shall be made in writing, in the form, so far as applicable, of Schedule "A" to this By-Law. Such application shall contain a precise statement of the work proposed to be done and the sizes, description and weights of all pipes, traps, fittings, fixtures and materials to be installed and shall be accompanied by a plan showing the part of the plumbing and drainage system situated underground and a sectional elevation or elevations showing the arrangement of the soil waste and vent pipes, traps and fixtures whether existing or to be installed.
- Plans.** 5. All plans referred to in the immediately preceding section shall be legibly drawn in ink, on tracing linen, or may be blue-prints, and shall be drawn to a scale of not less than eight feet to one inch.
- Permit to be issued by Commissioner** 6. If the application is made in due form and the work proposed to be done conforms in every respect to the provisions of this By-Law, the Commissioner shall issue a permit in writing therefor. Such permit may be in the form of Schedule "B" to this By-Law.
- Alterations and Deviations.** 7. Where a permit has been issued for any work under this By-Law no alteration or deviation shall be made from the same, as shown in the application for such permit, provided that the Owner may make a fresh application for a permit authorizing any alteration or deviation in the form prescribed by Section 4 of this By-Law and a fresh permit may be issued by the Commissioner authorizing the same.
- Fees.** 8. There shall be paid by every applicant for a permit under this By-Law, to the Commissioner for the use of the City, the following fees, viz:—
- (a) For any alteration or installation where no new or additional fixtures are to be erected...25 cents.
- (b) For any alteration or installation where one or more fixtures are to be erected...50 cents per fixture.
- Special inspections.** (c) When a special inspection is requested after 5.00 p.m. on week days or 1.00 p.m. on Saturdays, or on a statutory holiday, a minimum fee of \$5.00 must be deposited with the application for inspection, and if the inspection requires the presence of the Commissioner for more than two (2) hours a further charge of \$2.00 per hour shall be made and charged to the Plumbing Contractor.
- Commissioner's duties.** 9. The Commissioner shall inspect and attend all tests of all work for which a permit has been issued under this By-Law, in the manner hereinafter set forth.

RELATING TO PLUMBING AND DRAINAGE WORK

10 The Commissioner shall be notified in writing by the Master Plumber executing any work for which a permit has been issued under this By-Law, when such work is ready for inspection or testing. Such notice may be in the form of Schedule "C" to this By-Law.

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Notice

11 If the Commissioner attends to inspect or to be present at any tests of any work after having received the notice referred to in the immediately preceding section, and the said Commissioner shall be delayed more than fifteen minutes in commencing such inspection or test or if it be necessary for the said Commissioner to make another trip to inspect such work the Master Plumber executing such work shall pay to the Commissioner for the use of the City a fee of fifty cents in respect of said delay or a fee of one dollar for each additional trip as aforesaid.

Penalty for

delay

12 All work shall be left uncovered and convenient for examination until the same has been inspected and tested in terms of this By-Law. If any such work or any portion thereof has been covered before being inspected and tested, as before provided the same shall be uncovered by the Owner or the Master Plumber executing such work and left uncovered until such inspection and tests are completed.

Work to be

uncovered

13 Every plumbing and drainage system and every addition to, alteration, extension or reconstruction of any such system to which this By-Law applies shall be subjected to an air or water test in the manner hereinafter provided, before the fixtures have been erected.

Tests

14 The air test shall be applied by closing all openings in the plumbing and drainage system or part thereof to be tested and by filling the same with air at a pressure of not less than five pounds per square inch, this pressure to be maintained for a period of not less than five minutes.

Air test

15 The water test shall be applied by closing the lower end of the house-drain and all other openings in the plumbing and drainage system, and by filling the pipes with water to the highest opening above the roof. Any part of such system may be tested separately, but in such case the head of water shall be at least five feet above all parts of the part so tested.

Water test

16 Within seven days after the completion of the work authorized by any permit issued under this By-Law, the Master Plumber executing the same shall give notice in writing of the fact to the Commissioner. Such notice shall be in the form of Schedule "D". Such work shall thereupon be subjected to a smoke test which shall be made by closing all

Smoke test

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- By Law 13493** openings in and filling the entire plumbing and drainage system of which it forms a part with smoke injected thereon under a pressure of one inch (1") water column by such suitable appliances for the purpose as the Commissioner may from time to time approve. Provided that in the case of any addition to, or alteration, extension or reconstruction of any such system already installed or for which a permit has been already issued under any existing By Law or By-Laws of the City prior to the date of the passing thereof, such smoke test shall be applied to the whole of such plumbing and drainage system.
- Testing plugs.** 17 In making every air, water and smoke test under the provisions of this By-Law, all openings in pipes shall be stopped up by proper testing plugs, screw caps or plugs, the use of wooden plugs, plaster of paris or other similar substance for this purpose is prohibited.
- Owner to carry out tests.** 18 Air, water and smoke test to be made under the provisions of this By Law shall be carried out by the Owner of the premises in which the plumbing and drainage system, or part thereof is being tested and the Owner shall furnish and material appliances and labor necessary for the carrying out of such test. The said tests shall be made in the presence and under the direction of the Commissioner and not otherwise.
- Right of access for inspection and testing.** 19 The Commissioner and every person authorized by him for that purpose shall have power at all reasonable hours of the day and upon reasonable notice given and request made for that purpose to enter upon and have free access to all parts of any premises in which there is being installed or exists, a plumbing and drainage system to which the provisions of this By Law apply.
- Commissioner's certificate.** 20 If, after such inspection and tests as are prescribed by this By-Law the work so tested is found to have been properly executed and in conformity with the permit or permits issued in respect thereof and with this By-Law, the Commissioner may, if so required by the Owner or Master Plumber executing such work, issue a certificate in the form of Schedule "E."
- Each system to be separate.** 21 (a) The entire plumbing and drainage system of any premises shall be separate and independent of that of any other premises and shall be so extended to the street or property line.
- (b) In the case of semi-detached houses, double houses or terrace houses, a separate and independent plumbing and drainage system shall be installed in and for each house.

RELATING TO PLUMBING AND DRAINAGE WORK

(c) Provided that in the case of a private garage to be used wholly in connection with a dwelling for the accommodation of an automobile or automobiles by the owner or occupant of said dwelling, the plumbing and drainage system thereof may be connected to the plumbing and drainage system of the dwelling in such manner as shall be approved by the Commissioner

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22 The house drain shall be not less than four inches in diameter and the fall to the sewer connection shall be not less than a quarter of an inch per foot throughout the length of the said house drain. It shall be laid in a trench cut at a uniform grade or it may be constructed along the foundation walls of the premises above the cellar floor or it may be suspended from the floor beams by heavy iron or steel hangers as hereinafter provided by Section 40 hereof and not otherwise. It shall extend at least eight feet outside the external walls of the premises before being connected to the sewer connection, and no premises shall be erected or built over the sewer connection.

House
drains.

23 A house trap shall be inserted in every house drain as near as possible to the point where the house drain enters the premises served thereby and before any connections are made to the house drain on the sewer side of the trap except for cellar drainage or rainwater leaders, and each house trap shall be formed of cast iron of the same diameter as the house drain, and shall have a water seal of not less than one and one half inches.

House traps

24 A fresh air inlet pipe shall connect with the house drain immediately inside the house trap and shall be extended outside the external walls of the premises to a point twelve inches above the surface of the ground and shall, where practicable, be placed not less than six feet from any opening window, door or other opening in the premises and shall be finished off with a return bend. In no case shall a fresh air inlet pipe be connected directly over trap. Such fresh air inlet pipe shall be installed according to the following table, viz:—

Fresh air
inlet

Height of Building	No. of Fixtures connected to system	Minimum Size of Fresh Air Inlet Pipe
Not more than 2 storeys	Not more than 12 fixtures	2"
" " " 3 "	" " " 50 "	3"
All over 3 "	All over 50 "	4"

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Clean-outs.

25. Directly over, and on the house side of the house trap, there shall be placed a clean-out. A clean-out shall also be placed in all cases on the house drain as close as possible to the point where it enters the cellar and on the sewer side of the house trap. The said clean-outs shall be extended to or above the cellar floor. Where there is no cellar in the premises, the clean-outs shall be placed at the most convenient point and extended to the first floor of the premises and constructed in such a way that easy access can be gained to them. The clean-out for a house drain shall be formed by a Y and extended without change of direction. Clean-outs shall be provided at the foot of each stack and shall be so placed as to be easily accessible.

Size of
clean-outs.

26. The clean-outs on the house traps, rain water leader traps, house drains and stacks shall be of the full diameter of the traps, drains or stacks on which they are placed, except where the said traps, drains or stacks are more than four inches in diameter, in which cases the clean-outs shall be not less than four inches in diameter.

27. Clean-outs fitted on cast iron pipes shall be leaded and caulked into faucets or hubs. In no case shall a clean-out be fitted into a plain piece of pipe.

Covers on
clean-outs.

28. All covers on clean-outs fitted on cast iron pipes shall be made of brass, not less than one-eighth of an inch in thickness, and having a solid square or hexagonal nut not less than one-half inch high and of a least diameter of one inch and shall be screwed and properly fitted and made air tight by the use of a suitable gasket. The threaded parts of clean-out fitting shall have not less than five threads of iron pipe size measuring eight threads to the inch, or such other design as may be approved by the Commissioner.

Catch basin
traps.

29. Every cellar forming a part of any premises to which this By-Law applies shall have a catch basin trap to receive the surface drainage including the water from weeping drains, overflows from tanks or rain water leaders, or other pipes, collecting or carrying surface water. Where practicable the catch-basin trap shall be placed so that the water line in said trap is six inches above the top of the house drain at the point of connection with the said drain, and shall be at least three feet distant from the house drain.

Pipes to be
as direct as
possible.

30. The arrangement of drain, soil waste and vent pipes shall be as direct as possible. All changes in direction of horizontal pipes shall be made with Y branches one-sixteenth, one-eighth or one-sixth bends.

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31. The size of the house drain shall be determined by the total area of the premises and paved surfaces to be drained thereby, according to the following table, viz:—

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Size of house
drains.

Diam. of Pipe	Maximum Area to be Drained
3 inches	1,500 square feet
4 "	3,000 " "
5 "	4,500 " "
6 "	6,000 " "
7 "	12,000 " "
8 "	18,000 " "
9 "	25,000 " "
10 "	41,000 " "
12 "	69,000 " "

Provided that the house drain may be decreased in diameter after passing a rain water leader or surface inlet to such an extent as the Commissioner may approve but in no case shall the house drain be less than four inches in diameter

32. No inverted joints shall be used below any fixture. No connection to any iron drain, soil or vent pipe shall be made by boring or tapping the pipe or by a saddle.

Inverted
joints, etc.

33. In all premises where fixtures are connected directly with the plumbing and drainage system, there shall be a main vertical soil and ventilating stack which shall not be less than three inches in diameter and shall extend from the house drain to a point above the roof of such premises. No soil pipe or stack shall be reduced in diameter after it passes above the ground floor.

Main
vertical
soil and
ventilating
stack.

34. All soil and waste pipes shall be of not less than the respective diameters set out in the following table, provided that a three inch main soil pipe or stack may be used in premises not more than four storeys in height and having not more than eight water closets connected to said soil pipe or stack in addition to other small fixtures. It is further provided however that all such water closet connections to the soil pipe or stack shall be made with Y branches and one right hand if more than one water closet is connected to the same branch pipe or if the connections for water closets on the same floor are made to soil pipe or stack on the same level and not more than three water closets shall be connected into a three inch horizontal branch pipe and no horizontal branch pipe shall be of greater diameter than the vertical stack or pipe to which it is connected. The following is the table above referred to:—

Size of soil
and waste
pipe.

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MAIN SOIL PIPES

(a) 1 to 6 floors—for not more than 35 water closets and not exceeding 15 water closets above 4th floor—4 inches. If more than 15 water closets to be installed above 4th floor soil pipe to be 5 inches.

(b) 7 to 12 floors—for not more than 60 water closets and not exceeding 30 water closets above 8th floor—5 inches. If more than 30 water closets to be installed above 8th floor soil pipe to be 6 inches.

(c) Over 12 floors—6 inches.

(d) In any case where it is found necessary to erect a main soil pipe for not more than 6 water closets located above 6th floor, said main soil stack may not be less than 4 inches in diameter, provided that this will apply only where no other fixtures connect therewith below 6th floor.

(e) WASTE PIPES

	Minimum size (inches)
Main waste pipe for kitchen sinks one to four floors and for 2 to 8 sinks	2
Main waste pipe for kitchen sinks, five to six floors and for 9 to 12 sinks	2½
Main waste pipe for kitchen sinks, seven or more floors and for 14 or more sinks	3
Branch waste pipe for kitchen sink	1½
Waste pipe for bath and laundry tubs, (3 or more fixtures)	2
Branch waste pipe for bath or laundry tub	1½
Branch waste pipe for 1 or 2 wash basins	1¼
Branch waste pipe for 3 wash basins on same floor	1¼
Main waste pipe not exceeding 30 feet in length for 3 or 4 wash basins	1½
Main waste pipe for wash basins other than specified	2
Waste pipe for slop sinks with 2-inch outlets (1 to 3 fixtures)	2
Waste pipe for slop sinks with 2-inch outlets (4 to 6 fixtures)	2½
Waste pipe for slop sinks with 2-inch outlets (more than 6 fixtures)	3
Main or branch waste pipe for slop sinks with 3-inch outlets	3
Main waste pipe for stall urinals (3 or more stalls)	3
Branch waste pipe for stall urinals (1 or 2 stalls)	2

RELATING TO PLUMBING AND DRAINAGE WORK

(f) All horizontal, branch waste pipes for kitchen sinks over 10 feet in length shall be 2 inches in diameter throughout their entire length and all horizontal waste pipes shall have a fall of at least one-quarter of an inch to the foot. The waste pipe connected to a kitchen sink shall not be utilized for venting the waste pipe of any other fixture.

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Sink waste
pipes.

35 a. Waste pipes of any kind shall not be connected to lead closet bends.

Waste pipes.

(b) All horizontal sink or laundry tub waste pipes over five feet in length shall be constructed of iron piping and be provided with a cleanout suitably placed and readily accessible.

(c) Connections between different sized pipes shall be made by proper increasers or reducers.

36. All house drains, soil waste and ventilating pipes and stacks above ground shall be constructed of cast iron, or brass pipe except as provided in the next succeeding section, and except as to waste and ventilating pipes 2 inches, 1½ inches or 1¼ inches in diameter which may be constructed of galvanized wrought iron. All underground house drains, soil waste, and ventilating pipes shall be constructed of cast iron piping.

Construction
of house
drains.

37. Branch waste pipes (except sink waste pipes, or ventilating pipes not exceeding ten feet in length) may be constructed of lead, all lead pipes and traps shall be of at least the following weights in proportion to their length, viz :

Lead waste
pipes.

Diameter of Pipe	Weight per Lin. Yd.
1¼ inches	7 pounds
1½ inches	9 pounds
2 inches	12 pounds
3 inches	18 pounds
4 inches	24 pounds

38. All soil waste and ventilating pipes shall be located inside the premises and shall not be placed inside an external wall of a frame building, and all terminals of such pipes shall be located not less than ten feet distant from or two feet above any opening window door or other opening in the same or any adjoining premises in existence at the date of the permit for the installation of such pipes.

Location of
soil pipes
and term-
inals.

39. All terminals of soil, waste and ventilating pipes of 4 inches diameter or less shall be increased 2 inches in diameter before passing through the roof of the premises by means of an increaser with top end conforming as near as pos-

Pipe
terminal.

RELATING TO PLUMBING AND DRAINAGE WORK

By Law 13493 shall be pitch of roof and projecting to the outer air not less than 1 inch and not more than 3 inches at any point above the roof, and be made weather proof by means of a lead flashing. All such lead used for this purpose shall be in weight at least five pounds per square foot and shall be worked over and into the hub of increaser with not less than 5 inches of cover on roof on either side of the pipe terminal and it shall be finished with a cast or wrought iron ring 4 inches in length properly caulked with lead, or oakum and cement into the hub thereof.

Pipe
supports.

40 All vertical pipes and stacks shall be properly supported at their base and at intervals throughout of not greater than 25 feet. All horizontal cast iron pipes shall be supported at intervals of not more than five feet by proper cast iron, wrought iron or steel pipe hangers or one inch brick piers, all horizontal lead pipes shall have continuous support throughout their entire length, and all other horizontal pipes shall have supports at intervals of not more than ten feet.

Traps.

41 Every fixture shall be separately and effectually trapped by a water sealing trap placed as near as possible to the outlet of the fixture and in no case shall a trap be more than two feet distant from such outlet.

(a) All traps, except where otherwise stated, shall have at least one and one-half inch water seal and be set true to their water level.

(b) All floor drains from lavatories or kitchens shall discharge over a catch-basin trap or water supplied fixture.

(c) The discharge from a fixture shall not pass through more than one trap before reaching the house drain.

(d) Traps (except earthenware traps) shall be of the same size as the waste pipe to which they are attached, and shall be properly supported.

(e) Vent horns on earthenware traps are prohibited.

(f) No traps (except earthenware traps) shall depend on interior partitions for a water seal shall be used.

(g) All traps on fixtures (except earthenware traps) shall have a suitable means of access for cleaning purposes.

(h) Iron traps for rain-water leaders and for cellar drainage shall be not less than four inches in diameter or not less than the size of the rain-water leader, and shall have a seal of not less than four inches.

RELATING TO PLUMBING AND DRAINAGE WORK

(1) All clean-outs on lead traps shall be wiped to the trap. The threaded parts of clean-out fitting shall have not less than five threads of a gauge equal to sixteen threads to an inch. All parts of clean-outs shall be not less than one-eighth of an inch in thickness. By Law 13493

(2) Traps formed with drainage fittings shall be made as short as possible and shall not exceed twelve inches between the inlet and outlet, measured centre to centre.

42. The waste pipes of any fixture not in regular use shall be kept effectually plugged. Unusual fixtures

43. Whenever any plumbing and drainage system or any part thereof is reconstructed, renewed, extended, remodelled or in any way altered, all dead ends or unused pipes, shall so far as practicable, be removed and the openings and connections shall be closed by plugs, screwed or caulked in. Dead ends

44. Where soap or waste pipes are placed in any premises for future use the necessary ventilation pipes shall also be put in at the same time and the whole work shall be tested and inspected as if the same were intended for immediate use. All openings in such pipes not in use shall be closed by plugs, screwed, caulked or soldered in. Soil and waste pipe for future use

45. No waste pipe from any drinking fountain, refrigerator, cold storage or other receptacle in which food stuffs are kept or stored, or any machine using water for cooling purposes, or a compressor shall be connected with any drain, soil or other waste pipe or run, water leader. In such waste pipe shall discharge into an open water supplied fixture or the local side of trap under such fixture, or over a floor drain properly trapped. The waste pipes shall be trapped separately and shall be as short as possible. When two or more refrigerator waste pipes are connected together or to a stack, said waste pipe or stack shall be extended through the roof of the premises for ventilation. Refrigerating, etc. waste pipe

46. (a) Waste pipes from soda fountains or bar sinks shall be connected to the local side of a trap of a sufficient size under a water supplied fixture and waste pipes to be properly trapped, or they may be connected to a trap placed not more than 5 feet from a continuous waste and vent pipe. In such cases the traps under fixtures may be eliminated provided that there is not more than 1½ feet of local waste pipe or aforementioned waste pipes may be constructed in a similar manner to ordinary fixture waste pipes. Soda fountains and bar sinks

(b) Pipes to be used for carrying off acid wastes shall be constructed of lead, salt glazed earthenware or cast iron. If Acid wastes

RELATING TO PLUMBING AND DRAINAGE WORK

By Law 14493 of lead the joints shall be burned if of salt glazed earthenware, the joints shall be made of oakum and not asphaltum and finished with cement and if of cast iron, the pipes shall be thoroughly coated with hot asphaltum inside and outside and the joints run with molten lead. All acid waste pipes shall have attached to them automatic flush tanks and be discharged into a diluting tank of proper dimensions and afterwards connected direct to drain or discharged over a catch-basin.

Garage drain. (c) No garage drain shall discharge directly into a house drain or soil pipe. Such drain shall connect to a catch basin of proper dimensions to be determined by the Commissioner. The discharge pipe from catch basin shall connect with house drain and shall be provided with such traps as may be necessary to prevent the ingress of gasoline and solid matter into the house drain.

Overflow pipes. 47 Overflow pipes from tanks shall discharge into a properly trapped fixture or floor drain having a waste pipe at least equal in diameter to the overflow pipe. Emptying pipes from tanks shall discharge in the same manner as required for overflow pipes or they may be connected with the overflow pipe.

Vent pipes. 48 (a) All traps shall be protected from siphonage and back pressure by anti-siphon or vent pipes, except where otherwise specifically provided by this By Law. Such pipes shall be constructed according to the following table:

Diameter of Vent pipe, inches	Maximum length of pipe which may be vented, Feet	No. and size of traps which may be vented thereby
1 1/4"	30	3 traps 1 1/4 inches in diameter or 2, 1 1/2 inches in diameter
1 1/2"	20	2 traps 3/4 inches in diameter or 4 inches in diameter
1 1/2"	30	1 trap 3 inches in diameter or 4 inches in diameter
2"	50	1 to 5 traps 3 inches in diameter or 4 inches in diameter
2 1/2"	75	6 to 9 traps 3 inches in diameter or 4 inches in diameter
3"	100	10 to 20 traps 3 inches in diameter or 4 inches in diameter
4"	200	21 or more traps 3 inches in diameter or 4 inches in diameter

RELATING TO PLUMBING AND DRAINAGE WORK

(b) Five traps of 1½ inches in diameter or four traps of 1½ inches in diameter or three traps of 2 inches in diameter shall be considered equal to one trap of four inches in diameter

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(c) Where loops or circuit vents are used not more than three traps shall be inserted on a loop or circuit without an intercepting vent pipe and the vent pipe at the end of the line shall be taken off between the last two fixture fittings. Provided that when not more than eight fixtures are inserted on a loop or circuit and the vent pipe is continued the full size of the waste pipe, intercepting vent pipes will not be necessary.

(d) Where three or more water closets are installed above the eighth floor in any building, the main vent pipe shall be continued full size and connected with soil pipe or stack at a point below the lowest fixture connected to such soil pipe or stack.

49. All offsets on ventilating pipes shall where practicable, be made at an angle of not less than forty-five degrees to the horizontal and all ventilating pipes shall be connected at the bottom with a soil or waste pipe or the house drain in such a manner as to prevent the accumulation of rust scale. Branch ventilating pipes shall be kept above the top of all fixtures connecting therewith or be constructed in such a manner as to prevent the use thereof as soil or waste pipes.

Offsets on
vent pipes.

50 Vent pipes shall not be necessary:—

Vent pipes
not necessary

(a) Where the trap for the upper fixtures on a stack is not more than five feet from such stack and (with the exception of earthenware traps) where the connection of the waste pipe to such stack is not more than three inches below the water level of the trap.

(b) Where only one water closet is connected with a stack and is located not more than five feet from such stack.

(c) Where two water closets are located not more than five feet distant from the stack on the same floor and discharge into a double Y branch and no other water closet discharges into the stack above such double Y branch.

(d) Where not more than one water closet and one to three smaller fixtures are installed on only one floor. Provided that this will apply only in cases where the waste pipes from the smaller fixtures do not exceed 1½ inches in diameter and are connected directly and separately to the main soil pipe, at a point above the water closet connection in a manner as set forth in the foregoing sub-section (a) of this section.

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By-Law 13493 **51** Vent or anti-syphon pipes shall be connected to the waste pipe as close as possible to the outlet of the trap and in no case more than five feet from it. See Sec. 50. (a) and such pipes shall not be connected to the crown of the trap. Such pipes must, where possible be run on the continuous vent or yoke vent principle.

Vent pipe
connectors.

52 Vent pipes from fixtures in basement of any building may be connected to fresh air inlet pipe provided if at connection is made in a manner to be approved by the Commissioner and that the fresh air inlet pipe is at least of the same diameter as the vent pipe.

53 Vent or anti-syphon pipes shall be extended through the roof or may be connected to a soil or waste pipe at a point above the highest fixture connected therewith.

Fountain
explosions.

54 Fountain exsurgers may on the approval of the Commissioner have anti-syphon traps located as close to the fixture as practicable. The waste pipe from any such fixture shall be at least one and one quarter inches in diameter.

55 During the process of any work executed under any permit issued under this By Law all openings or connections in the plumbing and drainage system shall be plugged or capped in such a manner as to prevent drain or sewer air passing into the premises.

Cast iron
pipes.

56 All cast iron pipes and fittings shall be sound cylindrical and smooth, free from cracks, sand-holes and other defects, of a uniform thickness and of the diameter and relative weight specified in the following table —

Diameter of Pipe	Weight per Lin. Ft.
1½ inches	3½ pounds
2 inches	4 pounds
3 inches	6 pounds
4 inches	9 pounds
5 inches	17 pounds
6 inches	20 pounds
7 inches	27 pounds
8 inches	33½ pounds
10 inches	45 pounds

All such pipes shall be thoroughly coated inside and outside with coal tar, pitch or oil.

Wrought
iron pipes.

57 Wrought iron pipe shall be not less than the minimum weight per lineal foot set forth in the following table —

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Diameter of Pipe	Weight per Lin. Ft.	By-Law
1¼ inches	2.24 pounds	13493
1½ inches	2.68 pounds	
2 inches	3.61 pounds	

58 All wrought iron pipe shall be galvanized inside and outside. Fittings for wrought iron vent pipes may be either cast or malleable iron steam or water fittings. All fittings for waste or soil pipes or rain-water leaders shall be of heavy cast iron, recessed and threaded drainage fittings with smooth interior water way, and threads tapered so as to give a uniform grade to branch pipes of at least one fourth inch per foot. All fittings for wrought iron waste soil or vent piping shall be galvanized or asphalted.

59 All brass pipe used for soil waste or vent pipes shall be thoroughly annealed seamless, drawn or brazed tubing, having not less than the outside diameter, weight, thickness and gauge set forth in the following table:—

Outside Diameter	Weight per Lin. Foot	Thickness Inches	(British Imperial wire gauge)
1¼ inches	0.88 pounds	1-16 inch	16
1½ inches	1.06 pounds	1-16 inch	16
2 inches	1.54 pounds	1-16 inch	16
2½ inches	2.82 pounds	7-64 inch	12
3 inches	3.41 pounds	7-64 inch	12
4 inches	5.74 pounds	1-8 inch	10
5 inches	7.22 pounds	1-8 inch	10
6 inches	8.71 pounds	1-8 inch	10

60 No slip joint or coupling shall be used for any connection on the sewer side of any trap. Slip joints on water supply pipes are prohibited.

61 Brass or steel ferrules shall be made of cast or drawn brass not less than 4½ inches long and ⅛ of an inch in thickness in every part, free from sand holes and other defects and shall have the following inside diameters: 2½ inches, 3½ inches and 4 inches. 1½ inch ferrules shall not be permitted. Soldering nipples shall be of heavy cast brass having hexagon shoulders and be recessed for lead pipe.

62 All joints between lead pipes or between lead and brass pipes or traps shall be wiped solder joints. In no case shall bolted or wiped cup joints be made. All joints between iron and lead pipes shall be made with brass solder nipples or ferrules.

63 All joints on cast iron pipes shall be made with picked oakum and molten lead, thoroughly caulked and made gas and

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Hy Law water tight. All joints on wrought iron or brass pipes shall be
13493 screwed joints made up with a paste of red lead or such other
suitable substance as may be approved of by the Commissioner
and shall be made gas and water tight and the burr formed
in cutting shall be carefully reamed out.

64. Caulked joints between different sizes of pipes must be made with proper increasers or reducers.

65. Fixtures with earthenware traps connected directly with soil or waste pipes shall have a solid brass floor plate not less than $\frac{1}{8}$ inch thick, soldered to the lead bend or pipe and screwed to the floor where joints are of wood and where brass or iron pipe is used screwed to same and bolted to the trap flange with brass bolts and nuts. The joint shall be made tight with an asbestos-graphite ring, red or white lead of the proper consistency or by the perfect screw joint. Caulking floor flanges shall be of solid brass, at least $\frac{1}{8}$ inch in thickness in every part. In wooden joist construction the connection between the earthenware trap and soil pipe shall have a suitable length of lead pipe between wiped joint and the under side of floor.

Drainage 66. All fixtures other than water closets and urinals shall
on fixtures have strong metallic strainers or bars over the outlets to prevent obstruction of the waste pipe.

Water 67. All water closets shall be fitted with either siphon discharge flush or pressure tanks or a automatically flushing valves
Closets, of a design to be approved by the Commissioner and all copper
flushing linings of flush tanks shall be of not less than ten-ounce
apparatus. copper. The mechanical part of a flush cocks must be above the water level in flush tanks.

Water 68. All water closets shall be fitted with a proper water
supply to supply so that they shall receive water flush in each time and
water closet with such force as shall thoroughly cleanse the closet bowl at each flush. All water closets shall have flushing rim bowls.

Prohibited 69. Pan valve plunger, washout latrine and trough water-
fixtures. closets are prohibited.

70. All fixtures shall be set open and free from all enclosing woodwork.

Local vents. 71. Every compartment in which one or more water closets or urinals is or are situated shall be ventilated by means of a local vent pipe constructed of metal piping. Such local vent pipe shall have at least three square inches area in cross section for each water closet or urinal situated in each

RELATING TO PLUMBING AND DRAINAGE WORK

- compartment. When a number of local vent pipes are connected to a main local vent pipe, the latter pipe shall have at least three square inches in area cross section for every water closet or urinal which it serves. Such local vent pipe or main local vent pipe shall be connected to a chimney flue or where this is not practicable it shall be extended through the roof and protected at the water end by a cow. Where such pipe is connected with a chimney flue it shall be so connected by a cast or wrought iron pipe of the same diameter and of at least three feet in length which shall be inserted into the flue and thoroughly cemented.
72. Local vent pipes connecting to a main local vent pipe shall run vertically at least three feet before connecting to such main local vent pipe. Branch local vents.
73. In any premises where any water closet compartment is partitioned off from a room used for other purposes the partition between such compartment and such room shall extend to the ceiling or be cased over and every such partition shall be to all intents and purposes air tight. Water closet compartments.
74. No water closet or urinal shall be located in any sleeping apartment.
75. No water closet or urinal shall be placed in any cellar or basement unless such cellar or basement has a ceiling or other floor impervious to moisture and is well lighted with natural or artificial light and has easy means of access. Fixtures in cellar.
76. All tanks for storing water intended for drinking or cooking purposes shall be covered so as to exclude dust and shall be so located as to prevent the water contained therein from being contaminated by gas and odors from fixtures, such covers shall be of metal tight fitting and provided with means of access for cleaning purposes. Storage tanks.
77. All urinals shall be vitrified earthenware of the integral steel type. Such urinals shall only be placed in rooms having the floor and walls to a height of six inches finished with impervious materials and the floor shall be graded to the trough in the urinal. All urinals shall be fitted with automatic flush tanks, pull tanks or flushometers. Urinals.
78. Wooden baths wash tubs and sinks and metal lined wooden fixtures are prohibited. Wooden fixtures.
79. No rain-water leader shall be used as a soil, waste or vent pipe, nor shall any soil, waste or vent pipe be used as a rain water leader. Every rain water leader inside any premises shall be constructed of cast iron or galvanized Rain-water leaders, etc. not to be used as soil pipe.

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By Law 13493 wrought iron pipe with roof connection made gas tight by means of heavy lead or copper drawn tubing wiped or soldered to a brass ferrule or nipple caulked or screwed into a pipe, or other approved method. Every rain-water leader shall be trapped before being connected with the house drain. Provided that where a rain-water leader discharges over a catch basin that portion underground may be constructed of vitrified earthenware pipe properly jointed with cement. In the case of dwellings the Master Plumber will be responsible for supplying and pacing a length of cast iron pipe connected to a head and securely fastening same to a post or wall so that rain-water leaders can be connected thereto. The cast iron pipe shall have a hub and shall not be less than four feet in length.

Steam exhaust pipe, boiler, etc.

80. No steam exhaust pipe, boiler blow off or drip pipe shall discharge directly into a house drain or soil pipe. Such pipes shall connect to a condensing or roofing tank of proper dimensions. The discharge pipe from such tank shall be provided with such traps as may be necessary to prevent the ingress of sewer or drain air. Provided that this section shall not apply to ordinary boilers connected with a cooking range or low pressure heating system in any premises, but no sediment cock shall directly connect with a house drain or soil pipe.

Gate and back water valves

81. No gate or back water valve shall be placed on any house drain or soil pipe in such a manner as to interfere with the ventilation of the plumbing and drainage system. All covers on back water valves shall be bolted or screwed, "lugged" covers are prohibited.

Ejectors.

82. No ejector, sump tank or other receptacle for receiving drainage shall be constructed in any premises except in such manner as may be approved by the Commissioner and the discharge pipe from any ejector sump tank or pump shall not be connected to the plumbing and drainage system of any building but shall connect with the main sewer separately or with the sewer connection beyond the house trap, but this shall not include a cellar drainer.

Water cocks.

83. No water cock, bibb, tap or hydrant shall be attached to any water service or pipe connected with the Water Works System of the City of Winnipeg unless the same is of first class quality and has legibly stamped thereon in a conspicuous place the name or trade mark of the maker thereof.

Stop cocks, and also of water supply pipes.

84. All water supply pipes shall be properly laid and graded with a fall to a stop and waste cock placed in the

RELATING TO PLUMBING AND DRAINAGE WORK

cellar or other convenient point where they can be entirely drained off. No water supply pipe of any kind shall be installed of less than one-half inch in diameter. Ship ponds on water supply pipes are prohibited. By Law
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84. (a) A distributing system for a water supply for drinking and domestic purposes shall not be connected with the distributing system of another water supply unless such connection is approved by the Medical Officer of Health. Cross con-
nections in
water
supply

(b) No plumbing, plumbing fixture, construction device, valve fitting apparatus or connection shall be installed or permitted which will provide a cross connection between a distributing system of water for drinking and domestic purposes and a plumbing and drainage system in such a manner as to permit or make possible the back flow of sewage or waste water into the water supply system. Cross con-
nection be-
tween water
and drainage
systems

86. All lead water pipes shall be of not less than the following relative sizes and weights, viz:— Lead water
pipes

Size of Pipe	Weight of Pipe
1/2 inch internal diameter .	6 pounds per lineal yard
3/4 inch internal diameter	8 pounds per lineal yard
1 inch internal diameter	10 pounds per lineal yard
1 1/4 inch internal diameter	14 pounds per lineal yard

87. All materials used in connection with any work for which a permit has been issued under this By Law shall be of good quality and free from defects and all such work shall be executed in a thorough and workmanlike manner. All faulty or defective work shall be altered or made good to the satisfaction of the Commissioner within seven days from the making of the notice hereinafter mentioned. The Commissioner shall when he becomes aware of such faulty or defective work notify the Owner or Master Plumber in writing specifying such faulty or defective work and requiring the same to be altered or made good and to conform to this By Law. Such notice may be given by delivering or mailing the same by registered mail to such Owner or Master Plumber in his or their last known respective addresses. The final certificate referred to in section 20 of this By Law shall not be issued until such faulty or defective work has been made good and in conformity with the aforesaid notice. Faulty
work

88. The plumbing and drainage system in all premises shall be maintained by the Owner at all times in good working order and in conformity with this By Law. In the event of any defect being discovered in such system the same

RELATING TO PLUMBING AND DRAINAGE WORK

By Law 13493 shall on the order of the Commissioner, be at once repaired and made good.

Appeal.

88. Should the Commissioner refuse to issue any permit or license, required by this By-Law, the applicant for such permit or license shall have the right to appeal from such refusal to the Committee on Public Safety of the City Council. Such appeal shall be made by the applicant filing a notice in writing specifying the grounds of such appeal within seven days after such refusal. Said notice shall be filed in duplicate, one copy with the City Clerk and the other copy with the Commissioner. The said Committee after hearing the applicant and the Commissioner may if so advised direct the Commissioner to issue a permit or license to the applicant.

89. No member of the said Committee shall sit or adjudicate upon any case in which he is personally or indirectly interested.

Licensing Master Plumbers.

91. No person, firm or corporation shall carry on the occupation, trade or business of Master Plumber in the City of Winnipeg unless and until he or it shall obtain a license so to do, and every person, firm or corporation so licensed shall be subject to the provisions of this By-Law.

92. There shall be taken out by every person, firm or corporation engaged in or about to engage in the occupation, trade or business of a Master Plumber in the City of Winnipeg a license authorizing him or it respectively to carry on his or its said occupation, trade or business in the said City for said license the person, firm or corporation obtaining the same shall pay at the time of taking out such license a license fee of \$30.00 for the year or fractional time thereof which the same is taken out, expiring on the 31st day of December next ensuing and for each ensuing year such person, firm or corporation shall pay an annual fee of \$5.00 at the time of taking out such license for each ensuing year.

93. Every person, firm or corporation so to be licensed as a Master Plumber must either be himself a practical plumber or employ a sufficient number of regular, educated, practical and experienced plumbers to do all work which he or it may engage to do, and shall not permit or allow any work to be done by or for him or it or in connection with his or its business except by such workmen as aforesaid, and by apprentices working under them.

RELATING TO PLUMBING AND DRAINAGE WORK

94 A firm or partnership of two or more persons desiring to carry on the business of Master Plumbers may do so upon obtaining a license, and the word "Firm" in this By-Law shall include such partnership. When two or more persons shall be licensed as partners, the license shall be issued in the name of the firm or partnership. Upon a dissolution of the partnership, the license issued to the firm shall thereupon lapse and be void and each partner subsequently carrying on business separately shall thereafter take out a separate license under this By-Law

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95 No license issued to any person, firm or corporation as a Master Plumber shall be transferable

96 Every person, firm or corporation engaged in or about to engage in the occupation, trade or business of a Master Plumber shall make application in writing to the Commissioner for a license under this By Law. In such application the applicant shall state his or its name and business address. If the applicant be a partnership, the applicant shall set forth the names and residences of the various partners of the firm and if the applicant be a corporation, the applicant shall set forth the names and addresses of the President, Treasurer and Secretary thereof

97 No person, firm or corporation licensed under this By Law shall allow the use of his or its name by any person or persons directly or indirectly for the purpose of obtaining a permit or permits to do any work for which a permit requires to be obtained under this By-Law

98 Every license issued under this By Law may be revoked by the City Council or by the Commissioner if the person, firm or corporation holding such license shall violate any of the provisions of this By Law or shall execute any work for which a permit under this By Law has been issued other than in conformity with the terms of such permit or shall, refuse or neglect to comply with any notice given by the Commissioner in terms of Section 87 hereof or who shall execute any work for which a permit is required under this By Law without such permit having been first obtained therefor, or who shall permit the use of his or its name or names by any unlicensed person, firm or corporation for the purpose of obtaining a permit or permits for any work for which a permit is required under this By Law,

99 Every person, firm or corporation licensed under this By Law shall give immediate notice to the Commissioner of any change in his or its place of business or of his or its retirement from or cessation of business or in the case of

RELATING TO PLUMBING AND DRAINAGE WORK

By-Law 13493 any firm, of its dissolution, or in the case of a corporation, of any change in the persons holding office of President, Treasurer or Secretary

Penalties. 100 Any person found guilty of a breach of any of the provisions of this By-Law shall be subject to the penalties imposed by By-Law Number 1620 of the City of Winnipeg.

101 By-Law numbered 9974 of the said City is hereby repealed.

RELATING TO PLUMBING AND DRAINAGE WORK

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Schedule A

CITY OF WINNIPEG

Application for a Permit under By-Law No. 13493

In the premises located on the _____ side of

_____ Street between _____

Street and _____ Street No. _____

being Lot No. _____ of Block No. _____

D.C.S. _____ Plan No. _____

Owner _____ Address _____

Architect _____ Address _____

Master Plumber _____ Address _____

Builder _____ Address _____

Purpose of building _____

New or old buildings _____

Number of houses or stores _____

RELATING TO PLUMBING AND DRAINAGE WORK

By Law 13493 Pursuant to the provisions of By Law 13493 of the City of

Winnipeg, the above-named owner hereby applies to the
Commissioner of Buildings of the said City for a permit
under the said By-Law to _____ the
plumbing and drainage system at the above-mentioned
premises in accordance with the accompanying plans and
the following specifications: -

1 NUMBER AND LOCATION OF FIXTURES

	Basement	1st Floor	2nd Floor	3rd Floor	4th Floor	5th Floor	6th Floor	7th Floor	8th Floor	9th Floor	10th Floor	11th Floor
Water Closets												
Kitchen Sinks												
Pantry Sinks												
Shop Sinks												
Baths												
Basins												
Urinals												
Wash Tube												
Other Fixtures												

By Law
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2 GENERAL

Size of house drain and trap.....

State area of roof and paved surfaces to be drained ..

Rain water leaders, Number.....Size.....

Dated this.....day of.....A D 19.....

Signed by applicant
in presence of }

Applicant's Signature.....

Examined and approved

.....
Commissioner of Buildings

.....day of.....19.....

Schedule B

CITY OF WINNIPEG

PLUMBING AND DRAINAGE PERMIT

Permission is hereby granted to M. _____
to _____ the plumbing and
drainage system at _____ in
accordance with the application No. _____ and relative
plans and specifications filed in the office of the Commis-
sioner of Buildings. This permit is issued under and subject to
the provisions of By-Law No. 13493 of the City of Winnipeg

Commissioner of Buildings

Date _____ 19____

RELATING TO PLUMBING AND DRAINAGE WORK

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Schedule C

SPECIAL NOTICE.—All applications for inspection must have permit number and street number, otherwise they cannot be accepted

APPLICATION FOR INSPECTION

Winnipeg _____ 19____

To the Commissioner of Buildings,

Winnipeg

The following work, under Permit No. _____

is now subjected to water or air test and is ready for inspection in terms of By-Law No. 13493.

_____ Street or Avenue No. _____

Owner's name _____

Notified by _____ (Master Plumber

Address _____

RELATING TO PLUMBING AND DRAINAGE WORK

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Schedule D

SPECIAL NOTICE.—All applications for inspection must have permit number and street number, otherwise they cannot be accepted.

APPLICATION FOR INSPECTION

To the Commissioner of Buildings,

Winnipeg.

The following work, under permit No. _____, will
be ready on the _____ day of _____ 19____

for inspection and smoke test in terms of By-Law No. 13493.

_____ Street or Avenue No. _____

Owner's name. _____

Notified by _____ (Master Plumber)

Address _____

RELATING TO PLUMBING AND DRAINAGE WORK

By-Law
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Schedule E

CITY OF WINNIPEG

CERTIFICATE

Office of Commissioner of Buildings,

_____ 19____

This is to certify that the work authorized by permit
No. _____ at _____ Street—Avenue _____
of Lot No. _____ D.G.S. _____ Plan _____
was inspected and tested as provided in By-Law No.13493
on the _____ day of _____ 19____
and it then appeared to have been executed in conformity
with the provisions of said By-Law.

COMMISSIONER OF BUILDINGS

Owner _____

Master Plumber _____

